SUMMARY

The central problem examined in this study is to determine whether the prediction of subsequent feeding behaviour can be improved by taking into consideration not only the acceptance but also the rejection of palatable food items. Prey rejection is one potential measure of the state changes occurring during the course of feeding but to date this has been disregarded.

In chapter 2 the influences of discovery of a food object upon searching behaviour in the three-spined stickleback were investigated by comparing post-discovery search to search behaviour in the absence of such a food object. Changes in searching behaviour after acceptance concurred with previous findings in that there was a reduction in the tendency to move away from the site of eating plus an immediate increase in the intensity of searching, leading to 'area restricted searching'. After rejection, however, there was an increased tendency to move directly away from the site of the prey plus an initial decrease in intensity of search, leading to what I have called 'area avoided searching'. Some inferences are drawn regarding the possible function of this to the predator.

In chapter 3 variation in encounter outcome and in area restriction and area avoidance subsequent to eat and reject encounters respectively was examined in relation to immediately prior behaviour and to the total previous experiential history within the daily feeding session. Neither outcome nor post-encounter behaviour were found to be totally dependent upon the current encounter. The motivational variables involved, however, could not be explained simply in terms of an increase in 'satiation' with cumulative intake over the session. It is proposed that, in addition, short term positive and negative motivational after-effects are present after eat and reject encounters respectively. The former positively influencing the probability that a subsequent prey item will be eaten and the latter negatively influencing that probability. A rough approximation of the duration of these

motivational after-effects was made.

Finally, in the closing remarks, the results are interpreted with respect to Cabanac's hypothesis of alliesthesia. It is suggested that satiety is not the only variable determining the sign and magnitude of the state effects of exposure to food but that lingering effects of sensory stimuli received in foregoing encounters with food also play a role.

SAMENVATTING

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